

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Improved diffuser ~~(10)~~ for a centrifugal compressor, characterised in that it comprises blading with blades ~~(12)~~.

2. (currently amended) Improved diffuser ~~(10)~~ according to claim 1, characterised in that the said blading has a strength  $s$  of the said blades ~~(12)~~ which is between 0.5 and 1, including extreme values, the said strength  $s$  being provided by the ratio between the pitch  $p$  of the said blading and the chord  $c$  of the said blades ~~(12)~~, the said pitch  $p$  being provided by the ratio  $\frac{\pi \cdot D_{p\_in}}{Z}$ ,

wherein  $Z$  is the number of the said blades ~~(12)~~ and  $D_{p\_in}$  is the diameter of an intake edge of the said blading.

3. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 or claim 2, characterised in that a deflection  $\beta$  of the said blading, i.e. the angle of displacement of a tangent line at the outlet of the blade ~~(12)~~ relative to a tangent line at the intake of the blade ~~(12)~~, is between an angle of  $0^\circ$  and an angle of  $10^\circ$ , including extreme values.

4. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 ~~or claim 2~~  
~~or claim 3~~, characterised in that the ratio between a diameter of an intake edge  $D_p$  in of  
the said blading and an outer diameter of an impeller  $D_2$  of the said centrifugal  
compressor, is between 1.04 and 1.14, including extreme values.

5. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 ~~or claim 2~~  
~~or claim 3 or claim 4~~, characterised in that the ratio between a diameter of an outlet edge  
 $D_p$  out of the said blading and an outer diameter of an impeller  $D_2$  of the said centrifugal  
compressor, is between 1.25 and 1.35, including extreme values.

6. (currently amended) Improved diffuser ~~(10)~~ according to claim 1 ~~or claim 2~~  
~~or claim 3 or claim 4 or claim 5~~, characterised in that it is used in centrifugal compressor  
stages with a coefficient of flow of 0.03 or less.

7. (currently amended) Improved diffuser ~~(10)~~ according to claim 1,  
characterised in that a design of the said blades ~~(12)~~ is optimised by means of the so-  
called CFD i.e. Computational Fluid Dynamic method (in other words a method for fluid-  
dynamics calculation).

8. (currently amended) Improved diffuser ~~(10)~~ according to claim 1,  
characterised in that a design of the said blades ~~(12)~~ is optimised by means of  
experimental methodology.

9. (currently amended) Improved diffuser ~~(10)~~ according to claim 1,  
characterised in that it is used for delivery of a centrifugal compressor for re-injection.

10. (canceled)